DOCUMENT RESUME

ED 426 417 CS 509 949

AUTHOR Powney, Janet; Hall, Stuart
TITLE Closing the Loop: The Impact of Student Feedback on Students' Subsequent Learning. Research Report Series.
INSTITUTION Scottish Council for Research in Education, Edinburgh.
REPORT NO SCRE-RR-90
ISBN ISBN-1-86003-046-7
PUB DATE 1998-12-00
NOTE 48p.
PUB TYPE Reports - Research (143)
EDRS PRICE EDRS Price MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Educational Improvement; Educational Practices; Educational Research; *Feedback; Foreign Countries; *Higher Education; *Student Attitudes; *Student Development
IDENTIFIERS *United Kingdom

ABSTRACT

Higher education institutions in the United Kingdom (UK) use a variety of ways to collect views from students about the quality of their educational experiences and suggestions for improvements. A small-scale study, funded by Higher Education Quality Council (QAA), explored how this feedback contributes to enhancing subsequent performance. Drawing mainly on practices in two particular institutions, findings show that, although there might be long term benefits in amending educational provision in response to student comment, no direct links can be made between feedback and enhanced learning. Feedback is most likely to focus on improving "teaching" (mostly lecturing) and educational facilities, and scant attention is paid to students' development of their learning strategies. Students are not always informed of any consequences of their feedback; moreover, examples from various universities in the UK show that there is still a problem in making links between student feedback, staff reactions and actions, and staff feedback to students. (Contains 20 references and a figure. Appendixes contain the research evidence, including 2 tables of data; and lists teaching methods identified by T. Bourner and S. Flowers in 1997.) (NKA)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 426 417

The Scottish Council for Research in Education

Closing the Loop

The Impact of Student Feedback on Students' Subsequent Learning

Janet Powney
Stuart Hall

RESEARCH REPORT SERIES

CS509409

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY
R. Wake
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
2A

SCRE

Closing the Loop

The Impact of Student Feedback on Students' Subsequent Learning

Janet Powney
Stuart Hall

SCRE
The Scottish Council for Research in Education

SCRE Research Report No 90

ISBN 1 86003 046 7

Copyright © 1998 The Scottish Council for Research in Education

First published December 1998

A report arising from a study carried out in the academic year 1997–1998 and commissioned by the Higher Education Quality Council (subsequently the Quality Assurance Agency).

The views expressed are those of the authors and are not necessarily those of the Scottish Council for Research in Education or the Quality Assurance Agency.

Printed and bound by the Scottish Council for Research in Education, 15 St John Street, Edinburgh EH8 8JR.

Contents

	page
SUMMARY	iv
ACKNOWLEDGEMENTS	iv
1 **INTRODUCTION TO THE STUDY**	1
2 **BACKGROUND**	2
3 **EMERGING THEMES**	7
Methods of collecting feedback from students	7
Using electronic communcation	10
What action to improve teaching and educational provision is taken on the basis of student feedback?	10
Is students' learning enhanced when changes are made as a result of student feedback?	12
Do students and staff know what action has been taken?	12
Does feedback make a difference to subsequent learning?	13
4 **CONCLUSION AND IMPLICATIONS**	16
Approached to student feedback	16
Student feedback and subsequent action	17
Purposes of student feedback	18
Closing the loop to enhance student learning	18
Implications	20
REFERENCES	21
APPENDIX 1: The research evidence	23
APPENDIX 2: Teaching methods identified by Bourner & Flowers	41

Summary

Higher education institutions in the UK use a variety of ways to collect views from students about the quality of their educational experiences and suggestions for improvements. This small-scale study, funded by Higher Education Quality Council (QAA), explores how this feedback contributes to enhancing subsequent performance. Drawing mainly on practices in two particular institutions, it is concluded that although there might be long term benefits in amending educational provision in response to student comment, no direct links are made, or perhaps can be made, between feedback and enhanced learning.

Delegation of responsibility to faculties and departments has resulted in overlapping and disparate kinds of feedback being collected from students. However feedback is most likely to focus on improving 'teaching' (mostly lecturing) and educational facilities and scant attention is paid to students' development of their learning strategies.

Students are not always informed of any consequences of their feedback. Moreover examples from various universities in the UK show that there is still a problem in making links between student feedback, staff reactions and actions, and staff feedback to students.

It is suggested that student satisfaction alone provides inadequate evidence of quality of provision and of effective learning. A review by higher education institutions of their rationales and approaches to student feedback could result in students having a more active role in formative course evaluation and even course design. Outcomes of such a review might be more subtle indicators which identify good learners.

Acknowledgments

The authors would like to thank the staff and students in the two institutions studied in detail for their support and openness in explaining their methods and views concerning student feedback. We are indebted to Harold Silver and to Robin Middlehurst for helping to formulate the project and for their perceptive comments throughout the study and on the draft report. Other colleagues who also generously contributed their views on the final report are George Gordon and Melanie Walker. We are most appreciative of their help

1: Introduction to the study

In the UK, as in many other countries, quality assurance procedures in higher education ensure that there is substantial feedback from students about their experiences at college or university. Little is known however about the *impact* of student feedback on teaching and higher education provision, on the quality of students' learning and on standards achieved. This small scale exploratory study is concerned with why higher education institutions believe that collecting student feedback is worthwhile for reasons other than accountability. What subsequent actions are based on students' views? What evidence do colleges and universities collect to demonstrate the impact of these actions on students' subsequent learning? These questions are relevant to all those associated with higher education.

The study focuses on two institutions of higher education located in Scotland but also draws on examples and comments provided by colleagues in other colleges and universities in the UK and abroad. The project was sponsored by the Higher Education Quality Council (now the Quality Assurance Agency) and took place during the academic year 1997–98.

This report begins with the context for feedback from students in higher education in the 1990s. This is followed by discussion of the main themes emerging from evidence collected from the study institutions and from other colleagues in higher education. The concluding section draws attention to broader issues and to implications for those who are associated with higher education. We have relegated the evidence drawn from our study institutions to an appendix. This should in no way suggest lack of interesting and important detail but has merely been done to avoid being too repetitive.

2: Background

In the quality audit and assessment procedures throughout the United Kingdom there is provision for consideration of the student contribution to maintaining and enhancing standards. This takes the form of a variety of feedback processes drawing on student perceptions of their courses – how they are taught and how they are assessed. Students provide feedback to their lecturing staff informally. They will also use more formal mechanisms such as: completion of surveys once they have finished a programme or module of study, course committees/student councils, staff-student liaison committees, faculty review boards and (usually through the Students' Union/Association) the institution's academic review committees.

Evidence from the Higher Education Quality Council in two *Learning from Audit* reports (1994, 1996) and from Powney (1994) suggests that student feedback mechanisms may not be working too well and this at a time when quality assurance procedures and standards of course delivery come increasingly under scrutiny. There has sometimes been, as at Liverpool John Moores University:

> considerable variance in the operation and effectiveness of these diverse means of securing student feedback and of involving students in programme evaluation across the University.
>
> Higher Education Quality Council, 1993a p 29

This Quality Audit Report also mentions that students were uncertain about any outcomes from surveys they had completed, the student feedback loop was not closed and yet 'students are becoming more critical of what they get and more willing to seek redress' *Times Higher Education Supplement* (12.7.96) .

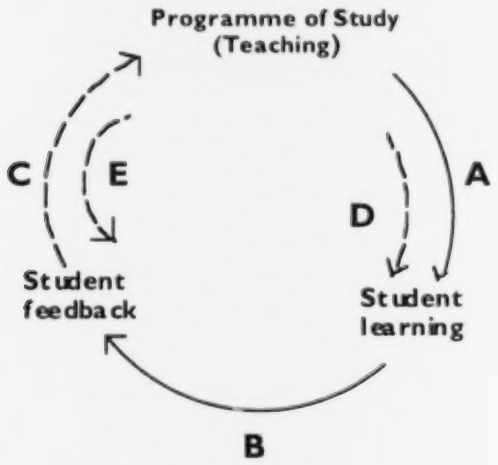
The UK quality assessment procedures ensure that visiting panels can explore and report on the functioning and effectiveness of course boards, boards of studies and staff-student liaison committees in which student perceptions are represented. These committees and boards vary in their composition and procedures, and in the definition of their purposes, across the regions of the UK, across institutions and in many cases across faculties and departments. It has also become increasingly common (though not yet standard practice for all HE institutions) for the student role in these bodies to be defined in student charters or other institutional policies regarding quality assurance.

Guidelines on Quality Assurance 1996 issued by the Higher Education Quality Council set out clearly the entitlements and responsibilities of students as well as staff. The emphasis is on transparency in detailing and communicating the educational provision to be provided. Teachers, professional support staff and students are all expected to contribute to the development of good practice in teaching, learning and assessment through regular review of policies and practices:

> An institution should seek to implement continuing improvement of the learning environment, the educational opportunities available to its students, and the quality and academic standards of learning in the education it provides.

Students have a key role to play in such reviews. In ideal situations, there is a loop linking educational provision with feedback, evaluation and review as represented by Coyle and Powney (1990) in Figure 1 below.

Figure 1 Closing the loop



- An institution prepares a programme of study intended to promote student learning (A).
- On the basis of their experiences, students communicate the good and less good features of the programme to the teaching staff and to others concerned with the quality of provision (B).
- Such feedback is used by staff to review and revise the programme (C) (and other educational provision such as library, computer support)
- in such a way that student learning is enhanced (D).
- However C and D are represented as dotted lines since the links between student feedback and revisions in teaching and assessment are not always explicit nor is any impact of the changes on student learning necessarily gauged.
- The arc E indicates how students are seldom informed of how their views have been taken into account when programmes of study are reviewed.

Evidence from HEQC (1996b) indicates that some institutions are committed

> to disseminating feedback findings for serious consideration and action through institutional management structures. There were many, and some outstanding examples of faculty development of efficient feedback and enhancement processes, but perhaps the most immediate need is for the development of institution-wide structures for the efficient and timely communication of issues and outcomes. (p 54)

Engaging students in the process of quality assurance is not easy. Issues emerging from a range of studies carried out in the 1980s and early 1990s, reported by Powney (1994), focused on difficulties associated with:

- representativeness of students
- general inexperience of students in committee and board affairs
- accountability of the institution to students
- accountability of the student representatives to their peers
- identifying evidence that student participation does affect quality of delivery and standards in higher education.

Issues also emerge from the inter-relationship of these difficulties. For example, to overcome the general inexperience of students in committee and board affairs some institutions have organised induction programmes designed to help elected, or nominated, students to participate fully in committee affairs but these are accessible to only a limited number of students who may not be the only representatives of the student body providing feedback to the HE institution. Moreover, representatives are often not in place until well into their first term/semester and by the beginning of their last term/semester are more pre-occupied with end of year or final course assessments than engaging with issues likely to be more pertinent to the following cohort of students than themselves.

Interest in improving the effectiveness of student contributions to quality assurance has been directed towards course representative training in a large number of institutions though again the nature of the training varies considerably. Training has been sponsored and carried out by students unions or associations, sometimes in collaboration with the National Union of Students on a local or regional basis, sometimes in conjunction with Enterprise programmes, and sometimes jointly with the registry or other branch of the institution itself. Sheffield Hallam, for example, has provided an intensive induction programme for student representatives and keeps them up to date on developments in higher education through a series of guidance notes. Over many years, Humberside College of Higher Education (now Humberside University) pioneered formal handbooks setting out students' roles, responsibilities and action points in contributing to the institution's quality assurance.

However, engaging students in the process of quality assurance is not easy. The initial and to some extent continuing area of difficulty is to persuade academics that student representation is desirable and essential and has to be taken as seriously. Silver and Silver (1997) document the saga of moving from the student resistance movements of the 1960s, through the early years of student representation at Senate and other committees to the combined impact of external quality assurance and audit first by the CNAA in the public sector and later by the CVCP Academic Audit Unit and, after the abolition of the binary divide in 1992, by HEQC (now the Quality Assurance Agency). A number of studies carried out in some CNAA related institutions demonstrated some useful practices but also some of the difficulties. A Trent Polytechnic working party reported in 1988 on *Student Participation in Course Monitoring and Review* and Lancashire Polytechnic (now University of Central Lancashire) commissioned a study on student participation in quality assurance in the institution (Coyle and Powney 1990). Even where the policy of higher education institutions clearly requires student involvement, practices can allow this to be ineffectual:

> lack of a formal constitution, agenda and discussion documents not circulated in advance, meetings dominated by staff, and student disillusionment at recurring, unresolved problems.
>
> Silver and Silver, 1997 p 89

At the level of institutions' policies, therefore, there are commitments to student involvement in quality procedures. At the same time there are apparent weaknesses, resistances or difficulties in many instances, although there is as yet no clear national picture of how widespread these difficulties are, whether they are increasing or decreasing, and what are the most effective forms of good practice in securing student representatives and providing them with appropriate training and support to enable them to contribute consumers' views on the quality of their educational provision.

New problems address the principle of student representation in the 1990s. Flexibility in higher education provision means it is difficult to identify a consistent student constituency as students move between modules, between part-time and full time modes of study and may be located at a campus or associated institution geographically remote (even in another country) from the parent institution. Other students may be gaining their qualifications by open or distance learning. Students themselves are under different kinds of pressure which may leave little time for voluntary or political activity outside their studies. The recent expansion of higher education means larger classes and less access to personal tutors. Given these kinds of situation, it may prove difficult for an institution to demonstrate that it has taken full account of student views in relation to the many affairs of the organisation. The political and economic changes since the first government led by Margaret Thatcher and sustained as yet within the current Labour Government have produced a culture which questions the possibility of a career or even a job to anyone with or without higher education. A large number are having to take extensive paid

employment in order to survive while in higher education and there is now a culture of debt among students.

> Twenty-five years ago being at university in some way meant 'making a contribution'; nowadays students are more likely to be thinking about it as valuable for improving job prospects.
>
> Silver and Silver, 1997 p 94

On the basis of their research, these authors estimate that 15–20 hours of paid work each week is the most common pattern among working students. Consequently these students are doubly disadvantaged in both having to work and not having time to study, including not being able to benefit from the support facilities. For example, working students were unable to access the IT facilities provided at Queen Margaret College and some even changed their electives to fit in with their employment patterns rather than the other way round (*op. cit.* p 136). It could therefore be expected that students are becoming more discerning consumers of their educational programmes and in particular that their feedback makes a difference to the quality of course provision.

It is this last issue which is the subject of this proposal – how can student feedback ultimately result in improved learning and teaching or as Barnett (1992 p14) asked: *'Is students' learning as effective as it might be?'* Can any significant improvements relate only to future cohorts of students rather than to those who provide feedback? How do institutions make use of student feedback to change practice at institutional/faculty and departmental level? What difficulties have institutions encountered in this area and how have they overcome them? What information do students receive about actions taken on the basis of their feedback? Exploring these questions will contribute to the debate and development of successful practice in closing the loop between student feedback and enhanced educational provision and learning.

The study reported here explores the impact of student feedback on measures taken by two higher education institutions to foster and improve student learning. The research questions focus on:

- **Question 1** *How do higher education institutions collect feedback from students about their learning and teaching experiences?*
- **Question 2** *What action to improve teaching and educational provision is taken on the basis of student feedback?*
- **Question 3** *What evidence is there that students' learning is enhanced when changes are made as a result of student feedback?*

3: Emerging Themes

Methods of collecting feedback from students

There is substantial feedback required from students for accountability within and outwith higher education institutions and for improvement in teaching. The kind of feedback obtained should, at least in theory, relate to the purposes of obtaining feedback, why people want it. As expressed by informants in this project, the purpose of obtaining feedback from students about their experiences in higher education is to improve the facilities, teaching and learning. Some people elaborated on this theme with comments on maintaining and enhancing the institution's reputation and staff satisfaction; sustaining student numbers and gaining satisfied clients; development of self-critical practitioners/staff and enhancing learning and attainment. However this study has focused primarily on how student feedback contributes directly to improving the quality of learning and teaching.

What we have identified in practice:

- mechanisms of collecting student feedback are fairly similar in the two organisations and exist at institutional, faculty and programme level but they are not necessarily articulated with each other
- there is wide diversity in the quality and content of questionnaires
- topics on which feedback is required range from aspects of the supporting environment, through the more direct circumstances of learning and teaching to the expectations of what the students will learn; there is relatively little reference to the learning skills or metacognition of students
- the quality of feedback is determined by the subtlety of the questionnaire and the questions asked or not asked (for example as one informant pointed out, if questions on equal opportunities are not included, feedback is less likely) and by students' awareness of procedures and rights within the institutions (eg, do they know there is a mechanism for dealing with complaints?)
- staff may have relatively low levels for what counts as 'satisfactory' teaching
- students and staff tend implicitly to define teaching rather narrowly and to emphasise lecturing rather than other teaching activities
- response rates tend to be low unless surveys are completed in class time
- survey analysis can be of limited rigour and usefulness
- power dynamics are more visible in staff/student consultative committees
- student feedback may be used for more than one purpose since every institution has a staff development role balanced with policing and appraisal functions.

Emphasis in the feedback collected by the institutions in this study is more on teaching than on students' learning experiences. This is in common with practice in many other colleges and universities. *Learning from Audit 2* indicates that most frequently surveys focus on specific course content and delivery and often on both specific and general matters in the same survey. Some organisations are moving towards a core of general questions with supplementary questions specific to programmes. Harvey *et al* (1997) have conducted an annual institution wide student satisfaction survey for the past 9 years which allows for student responses to be monitored over time. The emphasis is on delivery related directly to courses. Few institutions collected systematic feedback on extra-faculty resource centres such as IT facilities – although library services are usually included in institution wide surveys.

Not all institutions or staff are equally concerned with collecting feedback or giving too much credence to it. Those previously validated by the Council for Academic Awards will have become used to presenting student views as part of their evidence of effective course provision at the time of course or programme reviews. In contrast it was apparent by the third report of the Reynolds Committee into Academic Standards in the Universities (CVCP 1989) that there were still some eight universities without centrally planned and coordinated procedures for monitoring courses including obtaining student feedback:

> It was assumed in the universities that having appointed good academic staff, they could fulfil their professional commitments at an appropriate standard.... Whereas university standards were taken for granted, CNAA institutions had to prove standards equivalent to those of the universities.
>
> Powney, 1994 p 125

Thus the quality of staff has been used as a proxy measure for quality of teaching and learning and this approach may even linger in some higher education institutions despite the support and encouragement given by external agencies such as the Higher Education Quality Council and the Higher Education Funding Councils to use student feedback as an indicator of quality in learning and teaching. That staff may not be overly concerned with student opinion is evident in the low response rates to questionnaires frequently tolerated in the institutions. It has sometimes become somewhat ritualistic – as indeed it was in many CNAA course validations and reviews – in order to meet the quality assurance procedures of the institution. This is evident also in older institutions in early Quality Audit Reports:

> In many cases, this new standardised system has been superimposed on, and merged with, existing departmental and course procedures. As a result the attempt to regularise practice has met with some resistance, and generated some confusion: not surprisingly, the effectiveness of this method and the enthusiasm for it among both staff and students has been very variable, as have the figures for questionnaire completion and/or return. The audit team found some evidence of 'questionnaire' fatigue among students, and of apathy towards these procedures.
>
> HEQC, 1993b § 71

Nevertheless *Learning from Audit 2* reports favourably on the overall efforts of higher education to arrange mechanisms for students to raise academic and welfare concerns mainly through the staff/student liaison committees and through questionnaires and other written surveys. While this may be true, it is also clear that a) there can be a lack of overall coherence within one institution and b) teaching tends to be defined rather narrowly by both students and staff.

A pertinent question is whether or not the mechanisms of student feedback have kept pace with the changes in the organisation of higher education institutions. With the introduction of modular schemes which cross disciplines, students' learning experiences can be shared across several departments or even across faculties. Yet, with management devolved to faculties, it may be difficult to sustain an institution wide approach to student feedback. This problem highlighted in *Learning from Audit 2* and observed in the two principle institutions in this study demonstrates the need for an overall strategy for the timing, content, format and analysis of surveys in order to avoid a lack of consistency and/or overlap between the requirements of an institution as a whole, its composite units or faculties, and between faculties. Students will be disinclined to provide feedback which they see as repetitive, ill-timed or irrelevant to their experiences.

A second question arising from this study is whether the mechanisms of student feedback kept pace with other trends in higher education: changes in pedagogy, dramatic increase in student numbers and larger group sizes, more vocational courses and partnerships with employers, increased work based learning, expansion in franchised and associated institutions (including overseas), increased commercialisation of higher education services? It is worth noting in this context that the Quality Assurance Agency (1996) found that arrangements for collecting and analysing student feedback at overseas partner institutions left plenty of room for improvement and they were, for example, absent in at least one partnership college in Hong Kong. In contrast Hong Kong University in partnership with Napier University has a number of avenues for student feedback and summaries of the responses are considered as part of the parent University's annual monitoring arrangements.

In the rather simplistic illustration of factors influencing student learning (Figure 2, Appendix 1 p27) conveyed by a student's cognitive development being at the core of what might be called conditions of learning, the circumstances for learning and teaching are diverse. Lecturing is only one mode of teaching, the one where a tutor's performance is clearly visible. However good teaching consists of many other aspects. Supportive seminars and tutorials are common as in many courses are structured laboratory classes or workshops. Increasingly, vocational programmes have components of work-based learning and assignments are learning opportunities enabling students to work through their conceptual understanding. The impact of new technology is

to expand the facilities for independent learning. Although teaching encompasses these and other kinds of learning activities where the tutor is more or less apparent, most student feedback mechanisms emphasise, and some are restricted to, lecturing performance despite these very lecturers having arranged or participated in other teaching/learning activities. Individual institutions and departments will vary. For example, one School which ignores tutorial systems, welfare and careers advice, nevertheless has

> a Quality of Learning and Teaching questionnaire which covers teaching methods, teaching staff, studio facilities, technical staff, assessment, library and overall view of the School.
>
> HEQC, 1996b § 97

It is clear that most student feedback focuses on teaching as a service and even that often narrowly defined as capacity to lecture in an interesting (and entertaining) way. Feedback mechanisms less frequently ask students about things to do with learning and academic attainment. Ramsden (1992) highlights the need for student surveys which are intended to improve student learning, to focus on research into student learning itself rather than on teachers' lecturing performance. Students will tend to provide answers only to the questions they are asked and, as these are relatively unsophisticated in both definitions of teaching and in opportunities for students to review their own learning strategies, this constrains the action that might be taken as a consequence. 'Teaching' can be interpreted as making a relatively small contribution to students' learning; other services are important as well as the students' own motivation.

Using electronic communication

Recent innovations suggest that electronic communication could be a powerful tool in generating and disseminating summaries and outcomes of student feedback. There is some evidence to suggest that people are more likely to provide information and to answer in greater detail if they can transmit it directly. Electronic mail facilitates a personal approach although one disadvantage is the loss of anonymity for survey respondents.

One university is using electronic feedback about staff development programmes in developing learning materials. Moreover staff can monitor their students' progress, tracking them to see how much time they spend on particular areas of on-line learning, and download in individual learning materials. There is clearly scope for expanding the use of information technology in the field of student feedback.

What action to improve teaching and educational provision is taken on the basis of student feedback?

The first point to make in relation to this question is that not all feedback results in subsequent action. Some student comment can be endorsing current

practice and not advocate change. Another reason given by staff for lack of subsequent action is that student feedback is 'fickle'. A frequently voiced dilemma for staff is that where changes have been made to meet student complaints or suggestions, subsequent student cohorts have been as critical of the revised programme and ultimately the original teaching approach is re-presented. Perhaps as suggested in the findings from this study, staff feel obliged to explain why they do not *react* to student feedback whereas an alternative model is to see students as collaborators in programme planning, taking major responsibility for their own learning.

Where action on student feedback is taken, this can be fairly brisk or long term, and is sometimes quite problematic. Examples found in the case study institutions include action plans implemented by institutions and staff where the institutions require faculties to provide evidence of effective monitoring of programmes and of how the views of students have been addressed. The outcomes from internal faculty discussions, which, in some instances, involve students as consultants in remedial action, are transmitted to the institution wide committee responsible for quality assurance and to the vice-chancellor or his nominee.

A recurrent difficulty for heads of department or faculty is how to respond to consistent criticism of individual lecturers as 'poor teachers'. There is little evidence of analysis of questionnaires being used formally – for example in appraisal – partly because, as indicated in this study, it can be difficult to get a valid sample of student survey returns. (One in five students responded to one institutional questionnaire and responses for modules ranged from nil to 100% of the participants registered for a module.) Another major factor is that findings related to individual staff are kept confidential to a few key people although the lecturer concerned is likely to be informed and, in one institution, work with a senior member of staff to improve the situation was initiated. (This is very different from the situation in many colleges in the USA where fat books are published of student ratings of staff intended as a guide for students choosing future options.)

Where student comments or levels of satisfaction concerning individual members of staff are kept confidential, consequential actions can also not be made public. For example, where a member of staff has consistently low ratings in student feedback, one head of department adopts a range of strategies from encouraging staff development, bringing in guest lecturers or even moving the member of staff from teaching commitments. The head of department or dean may, however, have little room for manoeuvre unless staffing ratios are generous and terms of employment consistent with high quality teaching. A major obstacle voiced by staff is being able to trust the judgement of students who may be responding positively to an entertaining lecturer and ignoring other aspects and responsibilities of tutors. This may be

true but there also seems to be an implicit view that it would be unprofessional to 'name and shame' a colleague who does not satisfy students' requirements for competent teachers.

What institutions can do is to provide considerable support, especially for new staff, through central teaching and learning services. The Teaching and Learning Support service at 'Olde World University' draws on student feedback when setting up consultation relationship with faculties and departments and when reviewing courses. However, the case study institutions have no imperative to ensure that lecturers who are not very successful teachers actually make use of these services which are primarily directed at new staff. This Teaching and Learning Support service is not concerned with measuring improved practice and rather than use any firm criteria favour a rather broad notion of 'good teaching'. The service also sets a good example by having its own standard evaluation forms for feedback on its own programmes. TLS attempts to improve ethos in terms of valuing teaching by providing courses such as 'Feedback for reflexive educational development'.

Is students' learning enhanced when changes are made as a result of student feedback?

This is the nub of this pilot project – how student feedback can make a difference not just to course provision but also to the quality of student's own learning, how to close the loop. It has to be said that while there is plenty of student feedback on a range of matters, supporting evidence from the two case study institutions that students' subsequent learning is enhanced is sparse. There are differences in the extent of public feedback on actions taken as a consequence of student feedback and higher education staff have made a number of suggestions about why this is not even an appropriate question.

Do students and staff know what action has been taken?

Providing feedback to students has a low priority as a simple library example shows; lack of information about remedial action left students persisting in their behaviour adapted to previous circumstances i.e. avoiding the library at times when it was previously closed but is now open. How much more difficult might it be to provide feedback on issues more closely concerned with student learning and cognition. Recognising the difficulty of providing public acknowledgement of changes resulting from student comments, Lee Harvey talks about the need to develop strategies for 'marketing feedback' back to the thousands of students spread around an institution's various faculties and locations.

Evidence from this study confirms that while there is some reporting back to individual lecturers as well as departments and to a lesser extent reporting back to students on the outcomes of student feedback, it remains patchy with

little consistency across the departments of each institution. This parallels previous more general findings:

> There were however some institutions where the dissemination of results and actions to students needed to be strengthened to achieve greater credibility among the student body and hence greater effectiveness in terms of enhancing quality.
>
> *Learning from Audit 2* p 52

Our conclusion is that, despite considerable effort being put into collecting feedback from students about their learning experiences, there is an absence of agreed and systematic ways to analyse various kinds of data collected and of an agreed approach to action and dissemination. This could leave students feeling disempowered and potentially disinclined to take responsibility for improving the provision made for their learning. We know that some staff are unwilling to take action on the basis of what they see as skewed information. Aspects of the process are transparent – the format of questionnaires and what is said in staff-student liaison meetings. Subsequent activities – analysis of survey data, actions taken or not taken as a result of student feedback, and dissemination – may be less visible.

Does feedback make a difference to subsequent learning?

It is difficult to demonstrate that student feedback affects future learning or indeed standards although there are a few examples which make it worth pursuing this avenue of enquiry.

Given the number of variables involved, there are problems in making comparisons that could potentially demonstrate a causal relationship between student feedback and improved standards:

- Cohorts of students do not share exactly the same characteristics. The overall profile of students has changed significantly over the last two decades including increases in the total numbers of students as well increases in mature students, students from minority ethnic groups and those with disabilities. The expansion of higher educational provision has been accompanied by more practical, especially financial, problems for current students.
- Entry requirements or standards may change making it difficult to compare attainments in successive cohorts of students. As entry standards drift up so improvements in exam results may reflect higher entry rather than improved teaching or *vice versa*. Therefore it is essential to take a long term view to make valid comparisons.
- Course content, teaching, staff and assessment change (not only as result of student feedback).
- Many aspects of teaching are intuitive and good teachers may find it difficult to explain their teaching, to articulate how and why they make instant decisions in interaction with their students (Brown and McIntyre, 1988).

- Improvements seldom affect the present students and are directed at future cohorts.
- 'Censored' feedback is common. Evidence indicates that for a variety of reasons students censor their own criticisms of staff. They may like the tutors or at least not want them to be seen as less than competent. In a few cases students claim they are reluctant to say anything negative about their lecturers as they believe there may be repercussions in the way these staff assess them. Stefani *et al* (1997) also recognised this factor in their research study of differences between staff and student perceptions of project work:

> Although the questionnaires were anonymous, the relatively low rate of return was not entirely unexpected given that students have an irrational fear that any criticism of staff or courses will be held against them.
>
> p 273

Therefore it may be that most evidence will illustrate only *an association* between student feedback and improved teaching, learning and standards in higher education. Evidence includes:

- ways in which ethos, services, facilities have improved. Student representatives claim they have influenced the quality of services by organising high profile campaigns to improve library access and other services.
- teaching has improved and obstacles to learning removed. Student representatives claim they have influenced the quality of teaching through critical input into staff student committees, and accessing top managers. In addition, in one department, lecturers with consistently poor student ratings had been removed from teaching (but sometimes this leads to promotion).
- changes in student and staff attitudes towards each other as partners in learning
- changes in the issues being raised by students.

However this kind of evidence could be ambiguous since not only might the issues raised by students be changing, so might their expectations. For example the University of Central England has noted constantly rising expectations for library provision despite considerable improvements in the library stock over the last few years. There is a culture of expectation of improvement by each cohort of students.

As indicated in the first sections of this report the whole context of higher education has changed over the last twenty years. The heady days of expansion following the Robbins report (Committee for Higher Education, 1963) and establishment of the binary system of higher education were accompanied by what in retrospect seem reasonable or even generous levels of funding. Since then student numbers have multiplied, the proportion of staff contracted and

resources are limited both within the institutions and for individual students many of whom are having to take paid employment in order to continue their studies.

Do illustrations of different kinds of feedback suggest that there is a good return which enhances standards and learning? There is some positive evidence that student feedback can make a very direct difference to teaching and to students' subsequent performance: Lee Harvey (personal communication 1998) and colleagues have documented incremental improvement in learning when changes have been made to programmes as a result of student feedback but they raise the question of whether such improvements would have happened anyway? Certainly, without feedback, certain issues could remain unrecognised or unresolved for a long time.

There is a tendency to look at student feedback in terms of identifying problems and to ignore those areas where students indicate satisfaction. However, as many informants pointed out, making changes to suit one group of students is little guarantee that the next group of students will not want further changes and so on until the original situation recurs. The customer satisfaction model of ensuring quality is not entirely appropriate since the vast majority of students are not making a repeat purchase. Furthermore, whereas students only experience their own programme of study, staff are revisiting the programme each year.

Some institutions overcome these problems to some extent by having formal accountability mechanisms. For example, a member of the senior management team may be charged with reading the findings from all student feedback and checking with individual faculties and programme leaders about action taken. Are there issues which do not reach the senior management? Is there a tension between having responsibility for quality assurance devolved away from centralised systems to faculty or department level and yet wanting an institution-wide strategy understood and credible to both staff and students (some of whom may well be taking modules in more than one faculty)?

4: Conclusions and implications

Higher education institutions in the UK use a variety of ways to collect views from their students about the quality of their educational experiences and suggestions for improvements. A small scale study funded by HEQC (now the Quality Assurance Agency) explored the nature of this feedback and how it might contribute to improvements in teaching and educational provision. The issues of the study focused on three questions:

- *How do higher education institutions collect feedback from students about their learning and teaching experiences?*
- *What action to improve teaching and educational provision is taken on the basis of student feedback?*
- *What evidence is there that students' learning is enhanced when changes are made as a result of student feedback?*

Evidence from two *Learning from Audit* reports (1994, 1996) and from Powney (1994) suggests that practices in involving students in programme evaluation were very variable and that students were uncertain of any outcomes arising from their comments. The student feedback loop was not closed. This conclusion has been largely confirmed by this study and leads us to question the model of learning inherent in the kinds of student feedback required by colleges and universities. Can student feedback be instrumental in the longer term in enhancing student learning or is its main purpose related to the institutions accountability to external (and internal) quality assurance processes?

Approaches to student feedback

Clearly considerable effort and resources are put into collecting students' views on their educational experiences. The most common methods are questionnaire survey and staff/student consultative committees; other methods include focus groups and use of electronic communication. However, these activities can be fragmented with little coherence between information collected locally at programme or module level and that collected institution wide. Both feedback and any consequent actions within programmes tend to focus on narrow aspects of teaching and peripherally on the supporting environment for learning. Feedback is more likely, for example, to be asked about lecturer's *performance* than about the kinds of support provided in seminars, tutorials or laboratory/workshop sessions. Students' *learning* experiences are unlikely to be addressed. Consequently, students can contribute little to fundamental aspects of a programme's future design. This is not to say that staff are only informed by feedback through formal mechanisms such as questionnaire survey and staff-student consultative committees. George Gordon:

> *(Staff) almost certainly under-reported the many actions they do take from lecture to lecture, tutorial to tutorial, laboratory class to laboratory class, because it is their taken-for-granted method of operation.*
>
> George Gordon, personal communication

Sensitive teachers respond to student reactions and informal comments but by remaining at the informal and unreported level:

a. the loop may not be closed so students remain unaware of any changes resulting from their informal (and sometimes unconscious) feedback
b. any resultant changes may not be clearly and publicly associated with student feedback
c. it is difficult to incorporate these activities into an institution's formal quality assurance mechanisms.

Student feedback and subsequent action

Theoretically findings from formal surveys can contribute to quality assurance provided the response rate supports robust conclusions and there is sufficient expertise available for judicious survey analysis. The evidence in this study suggests that where departments have agreed procedures for systematic collection of student feedback and treat this information with a degree of gravity, students are likely to co-operate in providing feedback. Students are hesitant in raising in committees, issues that are critical of staff; other matters are dealt with more confidently.

Not all student feedback results in subsequent action. Some student feedback endorses current practice or staff may judge that student opinion is 'fickle' and changes made one year to meet student complaints or suggestions can be criticised by the subsequent group of students.

A consistent finding across the courses studied in this project is that students are not informed about the consequences of student feedback – the loop is not closed. Students remain unaware that cumulative feedback can result in significant change and that institutions usually require faculties to demonstrate effective monitoring that includes how the views of students have been addressed. A recurrent concern of senior staff is responding to consistent criticism of individual lecturers. There is a tension between wanting to support and improve the quality of teaching and maintain confidentiality of student respondents, and anonymity of the staff criticised.

Feeding back to students and staff the full outcomes of student opinion about their courses is not universal and feedback about any remedial action taken is also rather patchy. There are examples of feedback being provided through notice boards and in at least one UK University through libraries, resource centres, the student union and course representatives. However, even this wide dissemination may not guarantee that students receive an appropriate

summary of the main areas where action will be, or has been, taken (Gaell, 1998).

Purposes of student feedback

Initially we assumed in this study that student feedback was being collected with the intention of enhancing teaching and learning in the shorter and/or longer term. 'Closing the Loop' referred to ways in which student feedback influenced course provision and in turn was mirrored back to enhance students' learning. However, the evidence collected in the study suggests an alternative model is predominant. Student feedback is largely to meet quality assurance purposes, to demonstrate to those within, and outside, the institution that students are receiving an adequate educational service: as customers they are satisfied. (The customer satisfaction model of ensuring quality is not entirely satisfactory for individual students since, ideally, they will not be making a repeat purchase.) Much of the feedback collected operates on the implicit rationale that satisfied and happy students make 'good' students and 'good' students get better results. Evidence is missing of correlation between being a 'happy' and/or a 'good' student. Does this omission, as one commentator suggests, reflect a prevailing view about the indicators which identify good learners?

As mentioned earlier, the areas of feedback asked of students focus on a very narrow band of teaching activities – no more than two or three of nearly fifty methods listed by Bourner and Flowers (1997). These, combined with facilities in the supporting environment (eg, library, ICT facilities), are in the outer bands of factors which influence students' learning in higher education. The outer bands surround core aspects: expectations of what students will learn and the study skills, learning strategies and cognitive maps deployed by the students. In ignoring these fundamental factors of students' learning in the feedback collected from students, institutions are neglecting students' contributions and responsibilities in learning. Higher education is a partnership between staff and students. Accountability

> *has perhaps stifled a more considered approach to the purposes that are being served in student feedback, the outcomes that are desired and who these outcomes should benefit ... If 'student learning and attainment' were to be the focus, then the methods used would need to change and attention would need to be directed not at 'students' experience' but 'students' performance and understanding'.*
>
> Robin Middlehurst, personal communication

Closing the loop to enhance student learning

Would closing the loop to enhance student learning be more likely to occur through the use of more tailored and targeted formal instruments or through less formal and experiential approaches (eg, peer assessment)? This is a suggestion from George Gordon in the context of evidence that feedback to students could enhance learning and performance provided that learners' values, attitudes and the context are taken into account and then appropriate strategies implemented to create a positive peer culture.

In the progress of this study we have moved closer to models of learning and teaching which expect both learners and teachers to be aware of how students learn and how to promote the most effective learning strategies. One example from this project is a computer-based assessment scheme developed as a result of student feedback on the lack of assessment in their first year. Tests of about 20 items have been loaded on to a main server accessible through 48 PCs. Students are given feedback on their performance on completion of the test. The in-house evaluation concluded that:

> *the reflective nature of the student feedback seemed to have realised the potential of the system for meaningful self assessment and useful pedagogical support.*

In this example, students' original feedback resulted in changes to teaching methods prior to examinations; these changes were presented to students and were shown, in turn, to contribute to students' learning and understanding.

In conclusion, this study detailed the opportunities available for students to provide feedback about their programmes of study – opportunities which varied in nature and quantity as much as by faculty and course as by institution. Student levels of satisfaction are seen as a key indicator and less attention is paid to obtaining feedback from students about their learning experiences and strategies. The main questions for quality are as Harold Silver points out: whether the analysis of student feedback and notification of outcomes constitute a serious intention and effort on the part of the institution; and whether the responses to students provide opportunities for students to improve their learning.

The proliferation of modular structures in higher education make it problematic for students to enhance their learning retrospectively; in current practices their feedback is usually analysed at the completion of a module or part of a course and more attention is paid to their experiences than to standards and student performance.

Combining comments from our key informants, we conclude a more reflexive and research-based approach to learning and teaching would result in informal and formal student feedback providing evidence of the efficacy of particular learning activities. Such a shift in tutors' roles would require feedback to be embedded in a course and for teachers and students to agree that understanding learning processes makes a necessary and valid contribution to higher education.

Implications

This study suggests the following questions *(inter alia)* for consideration by those associated with higher education (viz: HEI staff and student representatives, QAA and external examiners):

- What are the real external and internal imperatives for collecting student feedback? Should students know, or would they benefit from knowing, the outcomes of the feedback they have provided?
- To what extent is there a match between the full range of teaching and learning activities and the areas on which feedback is sought from students?
- Staff may not all be skilled in quantitative and qualitative research techniques and analyses required in making use of student feedback. How can HEIs promote more thorough staff practices related to students' contributions to evaluation of courses and programmes?
- How might evaluation and formative student feedback be integrated into course design? Might this engage students more fully in developing their own learning strategies?
- New arrangements for quality assurance are likely to engage external examiners in issues of quality as well as standards. Can student feedback make an important contribution to examiners' fulfilment of their new roles?
- How can student feedback support in efficient and meaningful ways the continuous improvement in the quality and standards of higher education provision? Should the focus of feedback move from students' experiences in higher education to students' learning and attainment?

References

Barnett, R (ed.)(1992) *Learning to Effect* The Society for Research into Higher Education and Open University Press.

Bourner, T and Flowers, S(1997) Teaching and Learning Methods in Higher Education' in *Reflections on Higher Education* Vol. 9 pp. 77–102.

Brown, S and McIntyre, D *(1988) The professional craft knowledge of teachers* Scottish Educational Review, special issue '*The Quality of Teaching*' ed. Gatherer, W.

Committee on Higher Education (1963) *Higher Education* (Robbins Report) HMSO

Committee for Vice Chancellors and Principals (1989) *Academic Standards in the Universities – 3rd Report* (Reynolds Committee) CVCP

Coyle, P and Powney, J (1990) 'Informers and Judges – Students in course review and validation'. Paper presented to *Standing Conference on Educational Development.* Newcastle upon Tyne Polytechnic, May.

Geall, V (1998) 'Feedback' Internal working paper, Centre for Research into Quality, University of Central England in Birmingham

Harvey, L *et al* (1997) The 1997 *Report on The Student Experience at UCE,* University of Central England in Birmingham.

Higher Education Quality Council (1993a) *Liverpool John Moores University Quality Audit Report* HEQC

Higher Education Quality Council (1993b) *University of St Andrews Quality Audit Report* June HEQC

Higher Education Quality Council (1994) *Learning from Audit: 1994* HEQC

Higher Education Quality Council (1996a) *Learning from Audit 2:1996* HEQC

Higher Education Quality Council (1996b) *Glasgow School of Art Quality Audit Report* HEQC

Higher Education Quality Council (1997) *Guidelines on Quality Assurance 1996: Summary of the Principles* HEQC London

Powney, J (1994) 'Peer Review of CNAA Courses' unpublished doctoral thesis University of East Anglia

Quality Assurance Agency (1996) *Quality Assurance of Overseas Partnerships: Report of the Pilot Audits 1996* HEQC (QAA)

Ramsden, P (1991) 'A performance indicator of teaching quality in higher education: the Course Experience Questionnaire' *Studies in Higher Education* 16 pp.129–50

Silver, H and Silver, P (1997) *Students: Changing Roles, Changing Lives* Society for Research in Higher Education and Open University Press Buckingham

Stefani, L A, Tariq, V N, Heylings, D J A and Butchers, A C (1997) 'A comparison of tutor and student conceptions of undergraduate research project work' in *Assessment and Evaluation of Higher Education* Vol. 22 (3) pp. 271–288

Wright, P (1989) 'Putting learning at the centre of higher education' in Fulton, O. *Access and Institutional Change* The Society for Research into Higher Education and Open University Press.

Appendix 1: The Research Evidence

Study Institutions

The study focused on the impact of student feedback on measures taken by Higher Education institutions to foster and improve student learning. Two Scottish Higher Education Institutions, a 'traditional' university and a 'new' university, which was until recently funded as a central institution, were selected as study centres. Within each of these establishments a small number of departments/faculties identified as strongly committed to, or having good experience in, using student feedback to improve teaching and learning were focused on in more depth. The exploratory nature of the research meant that particular avenues of enquiry were followed up if they appeared fruitful. Thus we moved beyond the two identified study institutions to speak to staff in another university and more generally to speak with other authorities and individuals in the UK and abroad with an interest/knowledge of teaching and learning.

Methodology

The research involved a combination of methods:

- simple documentary analysis of programme and departmental feedback procedures and of student feedback evidence
- individual interviews with staff and students who have had a role to play in student feedback at programme and department/faculty level
- tracking examples of student feedback linked with changes in teaching and assessment. Staff in each institution were invited to organise a workshop designed to discuss and document the use and impact of student feedback on teaching and ultimately on students' learning.

Additional sources

- One other HEI with a reputation for well developed student feedback procedures was also asked to contribute to the research. In this instance staff and members of the Centre for Academic Practice were invited to attend a seminar/workshop on the use of IT in student feedback.
- In all three institutions electronic mail was also used as a means of establishing contact with staff, inviting them to seminars and gathering additional information about staff perspectives on the use of feedback.
- Interviews with other interested parties.

In general staff interviews were conducted individually while students were interviewed in small groups. However, if students requested individual interviews then the researchers responded accordingly. Table 1 summarises the documentation collected in the two study institutions and the staff and student interviews conducted.

Table 1: Information sources in pilot institutions

Olde World University	Brave New World College
Interviews at institution level	
• Head of Quality Assurance • Head of Teaching and Learning Service • 2 TLS student advisers • Student Representative Council Officer • Student representatives group	• Vice Principal • Chair of Educational Philosophy and practice committee • Director of Teaching and Learning Centre • Student Association President • Student Association Vice President • Student representatives group
Project seminars	
• Staff seminar on project	• Staff seminar on project
Interviews at department level	
• Head of Department • Senior Lecturer • Lecturer • Other relevant staff • Students	• Head of department • Course co-ordinator • Students • Observation of staff student committee and staff and student committee members interviews
Other evidence	
• 16 Annual Audit reports with external examiners' reports • Paper on computer assessment • University students guide • Example questionnaires	• An Overview for Quality Audit 1995 submitted to HEQC in preparation for the Quality Audit visit • Quality Audit Report, HEQC 1995 • Brave New World College Academic Handbook • Chapter H; Annual monitoring, Academic Handbook • Extract from the minutes of Academic Standards Committee on 5 March 1996 • Inter-Departmental group; arrangements for 1997 annual course monitoring exercise 1997 • Example; BA (Hons) Information Management; annual course report 1994–95 • Statistical Summary annual survey 1994/95–1995/96 • EPPC guide to good practice • Example questionnaires • Staff e-mail survey

Methods of gaining student feedback

In both institutions, feedback is commonly collected through a series of activities (questionnaires, committees and informal personal feedback), which may or may not be articulated with each other. Overall quality assurance, including student feedback, is the responsibility of a member of the senior

management team. In Olde World University there is both a Quality Assurance and a Teaching and Learning Unit. In Brave New World College there is an Academic Practice Committee and a designated member of staff responsible for teaching and learning practice. In both HEIs all departments are required to:

- submit annual course monitoring reports to senior management and relevant institution committees

and in addition

- both send out a common questionnaire to all students and then each faculty/department is required to collect evidence of students' satisfaction with their programme and with the tutors concerned.

In both institutions there is a degree of overlap between institutional-wide feedback mechanisms and those used at departmental/course level. This raises questions about the 'fit' between institutional, departmental and modular feedback. In one of the pilot institutions, a college-wide questionnaire asks about programme and personal development issues – the latter includes critical analysis development, development of independent study skills. However, it is not possible from this questionnaire to identify particular courses where students identify elements of, for example, good teaching practice and support and those where such support and practice is less systematic. In contrast a module questionnaire in the same institution only asks about feedback on 'the lecturer'. The focus is on teaching rather than students' perceptions of the development of their various learning skills to feed back to those most concerned i.e. the module or course co-ordinators.

When the issue of overlap was raised, staff involved in developing teaching practice in one institution suggested that the subject appropriateness of college wide questionnaires and individual departmental questionnaires had not been addressed. To some extent, this was felt to result from the lack of particular research and evaluation skills among staff who were expected to collect and collate student feedback.

Student feedback via questionnaire – is this the lynch pin?

In both study institutions, as in most HEIs, student-completed questionnaires play an important part in quality assurance. However, in relation to the study institutions, questionnaires differ in their nature, response rate, analysis and potential outcomes.

It is difficult to produce questionnaires which are easy and quick to complete and/or analyse and do justice to the complexity of learning and teaching. As part of the exploratory exercise, eleven examples of student feedback questionnaires were collected from the institutions. These questionnaires were subjected to analysis in terms of:

- the nature of the questionnaire
- content of the questionnaire.

In addition information relating to response rates was also sought.

Nature of the questionnaire

Half the questionnaires were dependent to a greater extent on closed response type questions. Three contained some element of closed response questions, the remaining two we comprised open response questions. Some criticism of questionnaire usage for gathering feedback is likely to stem from the strong reliance on closed response questions which are too crude. However, other criticism involves the questionnaire being the product of a staff agenda, and/or students lacking the vocabulary or understanding to utilise questionnaires in an effective manner. In one instance a staff member responsible for course assessment suggested that the open question at the bottom of the questionnaire often produced the most interesting comments about a class. Yet, despite such an admission, students' open comments were treated in an anecdotal fashion and no real attempt to capitalise on the recognised advantages of the open questioning technique had taken place.

In another department we encountered the use of a schedule containing five open questions and one closed rating exercise. This questionnaire was wide enough and open enough in its questioning to give students the opportunity to document their own agenda in relation to course assessment.

However differences in the nature of questionnaires did not just exist between departments but was also present within departments. In one department, one course used a questionnaire comprised of only open ended questions while another relied more heavily on closed response questions.

Timing of surveys

Some mention was made, by both staff and students, of the fact that questionnaires tend to be distributed at the end of modules/courses and thus potential difficulties, problems and issues are unlikely to be picked up before a student has completed a course. Certainly many of the students interviewed recognised that any changes which were initiated as a result of their feedback were most likely to benefit students in later years. On the other hand, issuing questionnaires too early in a course can often mean that students have insufficient grounding in a particular subject to make appropriate comment. HEIs have developed feedback mechanisms but there seems to be a need for a greater degree of integration between formative and summative evaluation approaches.

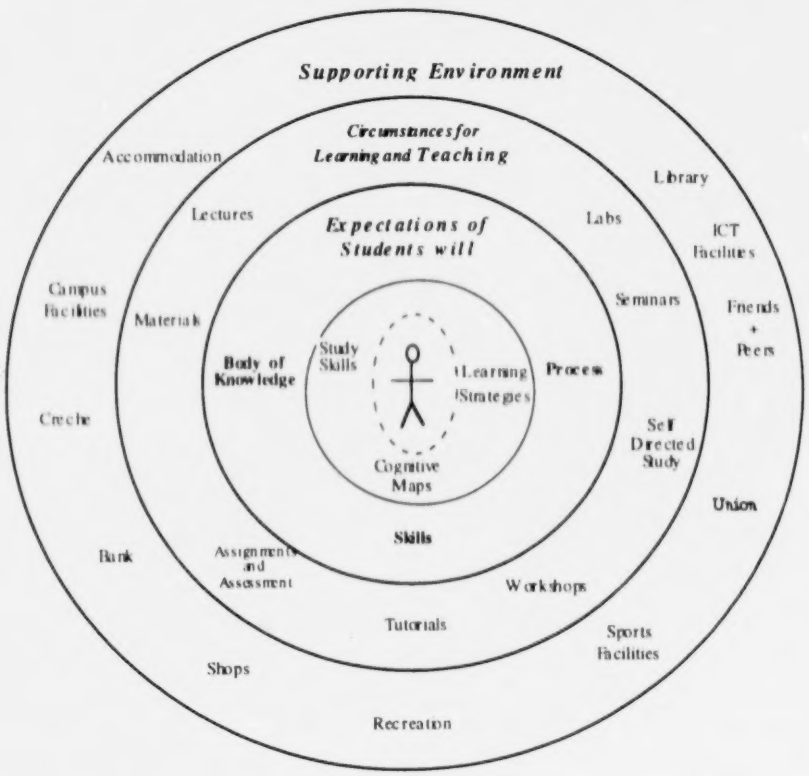
Content of feedback

Clearly the areas on which students are asked to provide information give an indication of the issues which are deemed to be important in relation to students' learning. Bourner and Flowers (1997) highlight a large number of areas of teaching activity and all of these could be investigated in student feedback (see Appendix 2).

We have chosen a broader framework for analysis of factors influencing student learning which could be reviewed by institutions collecting feedback.

Figure 2 gives an indication of the potential factors influencing an individual's learning. In the figure, the student is at the centre immediately surrounded by the 'core' area – factors which directly impinge on the learning process. Moving out from the centre the other three circles comprise factors which can influence the learning process usually in less direct ways. For example the outer circle, the Supporting Environment, includes factors such as campus facilities which may contribute to a student's overall satisfaction but are likely to be of lesser importance than the possession of a developed learning strategy when it comes to learning about, and retaining information on, specific topics and subjects.

Figure 2: Factors which may impinge on an individual student's learning



BEST COPY AVAILABLE

The example questionnaires collected in this study were looked at in relation to the areas highlighted in Figure 2. To what extent do they focus on the 'core' area of student learning? Table 2 indicates that most commonly questionnaires sought feedback on the circumstances for learning and teaching. In the main, questions approached this from the point of view of the students' satisfaction with particular elements of the course and the presentation of the lecturing staff. Indeed many of the questions focused on the students' satisfaction with the presentation skills of the individual lecturers. The following examples were used in one of the questionnaires and are fairly typical:

- Is the lecturer approachable/enthusiastic?
- Does the lecturer make note taking easy?
- Did the lecturer use the OHP well?

It is notable that there were few questionnaires that addressed themselves to the 'core' areas of student learning identified in Figure 2.

Table 2: Areas Focused on in Student Feedback Questionnaires

Questions concerning	Number of questionnaires	Ranking
Overall satisfaction with course	10	1
Lectures and lecturers	9	2
Degree of difficulty with course	6	3
Essays assignments and examinations	6	3
Materials	5	5
Reading lists and books	4	6
Time tabling	4	6
Body of knowledge (general)	4	6
Tutors and tutorials	3	9
Labs	3	9
Skills	2	11
Learning strategies	2	11
Library	2	11
Seminars	2	11
Circumstances for learning and teaching (general)	2	11
Campus facilities	2	11
Workshops	1	17
Self directed study	1	17
Cognitive maps	1	17
Recreation	1	17

While it can be argued that gathering information about the circumstances for learning and teaching and acting on the results can improve the learning environment for students, few of the questions directly address themselves to issues of how students learn, how to improve their learning and how to

measure/record such learning. Questions may ask about whether the lectures are interesting but they rarely ask if lectures are the most appropriate method for learning in particular fields or address the wide range of teaching methods identified by Bourner and Flowers (1979). Does the pre-eminence given to lecturing in questionnaires reflect staff perceptions of the value of this form of teaching? It certainly suggests that staff may be more concerned with getting feedback about their own direct teaching activities rather than all the ways in which they facilitate students' learning.

A further issue is the validity of using student satisfaction as a proxy measure for either lecturers' competence or for student learning. Attempting to answer questions about improvements in student learning becomes much more problematic if vehicles for gathering feedback focus disproportionately on student satisfaction.

Harvey *et al* (1997) provide a good example of an approach to measuring student satisfaction. This annual student satisfaction survey includes the views of nearly 2000 respondents. However even this large scale data gathering exercise is dependent on an assumed relationship between student satisfaction on a number of areas and improvements in student performance.

Other issues related to questionnaires

Response rate

Unless tutors use teaching time for students to complete questionnaires, response rates can be quite low. For example in Brave New World College, the institution-wide questionnaire response rate is generally around 20%. Within one department in the College, a 48% response rate at module level was regarded as high by one informant, the head of the programme. Within this department the range of response rates for different courses ran from 0% to almost 100%. Documentation for the department relating to semester 2, 1996–97 indicated that six modules returned no questionnaires, three returned only one questionnaire and a further 5 modules were designated as having a 'low' response rate. This department is not unique. Quality assurance reports from Olde World University raised concerns in one faculty about the very low or zero response rates for student questionnaire data in end of year course reports.

There will also be differential response rates depending on which year students are completing – one head of department reported that final year students are especially elusive.

However, there were examples reported where response rates were substantially higher. In one department, tutors were instructed to allocate time during a seminar for questionnaire distribution, completion and collection. In

this case students were expected to complete questionnaires before they left the class. In another situation a college-wide questionnaire on child care was distributed by the Students Association to a large number of students during matriculation time. Since matriculation involved a lengthy wait for students there was ample time for distribution, completion, and collection. The result was a response rate of almost 100%.

Low returns raise serious questions about the reliability of information and what value might be put on any analysis. Does low response rate indicate poor or satisfactory teaching and/or intimation that students believe no action might be taken? For example, in one department in Brave New World College, the course coordinator allows low returns to remain without comment for two years.

A few staff commented on what a low response rate may have meant in terms of student satisfaction. Two thought that it was likely to indicate a degree of satisfaction while a third suggested that it probably indicated a high degree of dissatisfaction with the course and/or their ability to change things. In terms of the student responses, the latter view appears more informed. We are also left with the question of how the system promotes maximum feedback in a method which is only credible with high returns.

Student comments on questionnaires

Many students expressed critical opinions of questionnaire use. In one department several suggested that the questionnaires used to rate modules did not allow them to rate the subject in a meaningful fashion, although they were unsure of what the mark should be. In the same department, several more pointed out that the questionnaire asked about their examination experience prior to sitting the actual exam. They also said that students were allowed to take the questionnaire away for completion, a recipe for ensuring the response rate would be low.

It didn't quite hit the mark!

There was some suggestion that students were more likely to fill in the questionnaire in the classes they had enjoyed. Enjoyment in this case did not necessarily relate to enjoyment of the course material but to the staff members' approach and style. A number of students said that they were more likely to respond to requests for feedback when they felt such feedback would be treated seriously and would be acted on. Moreover, a few students indicated that they equated high response rates to course evaluations as a positive response to favoured members of staff.

Completing the evaluations was like doing the lecturer a favour.

Where you felt less positive about the member of staff you would withhold feedback.

In general the evidence suggests that, where departments have agreed procedures for the systematic collection of student feedback and treat such collection with a degree of gravity, students appear more likely to co-operate in providing feedback.

Analysis and dissemination

It seems that the main method of analysis of questionnaire returns is in terms of straightforward frequencies, without the response rate necessarily being made clear and without more subtle comparisons. Analysis is generally made by a senior member of staff or the administrative assistant. In some instances computer support services or quality assurance departments may also play a role in data analysis.

Where analysis takes place within departments and faculties, questions of confidentiality for students and for staff may arise. There is no doubt that staff can feel vulnerable, exposed and sometimes apparently reluctant in the pursuit of feedback.

Some comments from students suggest they welcomed the potential anonymity of questionnaires. However, some staff thought that in smaller departments students may worry about their handwriting being recognised in open ended question response. To counter this potential concern, in one instance a department sent questionnaires to another department for analysis, a situation that students were made aware of. However, there appears to be a need to reinforce confidentiality with students. This is a serious issue for students. Equally, there is a need to convey the message that staff welcome feedback and that it is seen as an integral part of university life with benefits for both students and staff.

Student feedback via staff/student consultative committee

Higher education institutions have staff/student feedback committees at various levels but probably the most relevant to this project are the course or programme staff/student committees.

Students involved in both pilot institutions made positive remarks about their ability to raise issues in committee. However, there was some hesitation about raising issues which were critical of staff. In one or two instances students said that they would not attempt to deal with such issues for fear of a negative impact on their assessment results or future career direction. Students also suggested that issues involving staff criticism would be dealt with by approaching individual staff members whom they had identified as open and sympathetic. In one or two cases students said that, if they received negative or unhelpful comments from staff on an issue that they had raised, then they would not attempt to raise the issue in future. For example, one student had

pointed out to a member of staff that there were very few books in the library about a particular topic and those books that were present were very old. She said the staff response had been fairly hostile so she had not mentioned the subject again.

Several students with staff/student committee experience remarked that they were often unaware of the outcome of issues that they had raised in committee and did not always feel confident enough to pursue the issue in later meetings.

In both institutions the Students Association/Representative Council provide training in committee skills and procedures. These are designed to equip students with the necessary skills for operating in committee, raise their confidence and provide a structure and approach for dealing with 'tricky' issues. Students recognised the importance of such training in equipping them with strategies for dealing with issues and avoiding them degenerating into perceived personal attacks on individual members of staff. To this end, committee skills training is likely to result in students raising a wider range of issues at staff/ student committees

Students generally reported that familiarity with staff increased confidence in giving feedback via committees. However, other factors influenced whether such feedback could be across the board or focused on 'safe and sensible' issues. For example, one student remarked that his department was very small with strong individual bonds between staff and students. It was thus difficult to envisage a situation whereby students could unite on a particular issue.

In one institution, students felt that the move towards anonymous marking procedures would encourage more critical feedback from students. They suggested that students were always suspicious that staff might dock marks from students who had been critical of them.

Interviewed staff suggested that students are 'reasonable' in their comments and requests. They are credited with understanding the constraints on higher education. Staff also expressed their awareness that discrepancy in power may influence what students may say (and yet give the impression that this is not a problem for the particular informant). We raise other possible explanations. For example, do students have low expectations of what can be achieved through their feedback to staff? In committee meetings, are they disadvantaged by lack of committee skills and lack of confidence. Is their agenda to play the system without getting labelled as trouble makers? Does 'reasonable' therefore indicate effective self-censoring by students?

Informal feedback

Several instances were documented where informal communication has meant the resolution of difficulties/issues outside the more formal committee sessions. This method of feedback is often seen by staff as crucial in tackling issues at an early stage rather than waiting for the infrequent formal committees to meet or questionnaires to be issued, collected, and analysed. In many instances staff and students spoke of the importance of good communication. In most cases staff suggested that communication was established and functioned well in collecting feedback from students. In a few cases it was clear that the majority of student feedback was collected through informal methods. However a student in one small department in Brave New College commented positively on established relationships between staff and students. But he also emphasised that the department should also utilise 'anonymous' data collection methods such as questionnaires in order to secure a 'true' picture of the students' position.

Other methods of feedback

There were a few examples of departments in the pilot institutions using focus/discussion group methods for collecting student feedback. In one instance the co-ordinator of post-graduate research student supervisors had organised a group discussion session for students to explore issues and problems they were encountering. After collating responses and comments from the students, the supervisors were asked to join the session to discuss the students' comments. This exercise was thought to be very useful in raising the awareness of supervisors to the range of student experience.

In Olde World University, a teaching and learning service student adviser said that she ran discussion/evaluation groups with students at the end of the course to review the course and improve it for the following year. This tutor felt that discussion methods were more appropriate for review exercises in that they allowed the agenda to be developed by the students and explored in depth.

Another department in Olde World University had used focus groups to evaluate their computer based assessment system. This exercise was seen as relatively successful. However, by following focus group guidelines (in that the group facilitator merely introduces the topic for discussion then takes no further part in the discussion) student discussions went off track on one or two occasions and it was felt that future discussion groups should be more focused on the issue for discussion.

The best means of collecting student feedback

There is a degree of evidence to suggest that student feedback should be collected in a variety of ways, partly to maximise the potential audience but

also as a recognition of the fact that some issues may be better dealt with via one method rather than another. Moreover, there is a need to review the congruence of different feedback collection methods within a coordinated formative and summative evaluation strategy at both departmental and institutional level.

Providing students with feedback

Institutions rely on several avenues for reporting back to students on action taken as a result of their feedback and assessments. In some departments, both the minutes of staff/student committees and course assessments are made available and/or posted on notice boards. In others, feedback is the sole responsibility of student/staff committee representatives. In one institution a department, responding to student enquiries concerning action, produced a list of changes made in response to evaluation from modules and/or college-wide procedures and distributed them to student representatives, course leaders and posted them on notice boards. However, more usually students said that they were unaware of action that institutions may have taken as a result of their feedback. In some instances this is likely to happen as students move into new classes while changes are being implemented in their previous classes. In other situations, students said that staff representatives on staff/student committees were not always efficient in providing feedback on issues raised and poor in communicating the outcomes of issues. From the evidence collected, it is reasonable to conclude that institutions have generally better developed methods of collecting feedback than analysing and disseminating the results of such feedback to students. While action may have taken place as a result of student feedback, senior management are more likely than students to know of such action.

Potential outcomes from feedback to students

Do students make use of previous course evaluations and feedback in choosing their modules? Or do they draw on other sources e.g. informal feedback from peers?

Students involved in this study were more likely to make more use of informal sources of information on classes and modules rather than formal feedback. In one instance, in Brave New World College, students said they found out from other students about whether they were likely to enjoy a particular class rather than consulting the available module questionnaire summaries. These students suggested that one of the prime criteria for selection concerned the potential relationship between themselves and the member of staff responsible for the class. They said that they were more likely to be satisfied with staff who were friendly, approachable and helpful. Further there was evidence to suggest that students in many instances were unaware of what feedback had been collected and what had happened as a result. Clearly in such instances students have no alternative than to rely on comments and feedback from fellow students.

Institutional ethos and quality

Effectively gathering feedback from students is an important first step in quality assurance but what action is taken as a result of this to maintain quality – what does the organisation do as result of positive or negative feedback from students?

It appears that while organisations are improving their data gathering techniques they are as yet generally dependent on the good will of staff members to act on student feedback. Clearly this means nothing happens in some cases. Several interviewed staff suggested that staff who take student feedback seriously and act upon it are those who are generally seen by students as the most helpful, friendly and approachable. Thus it is the case that the staff members who could probably benefit most from recognising the importance and use of student feedback for their teaching practice are also least likely to take effective cognisance of it. In one department we encountered an example of an individual member of staff being promoted because they were consistently identified by successive students as a poor teacher and unwilling to address underlying problems – what message does this give? However this is not always the case and it is quite possible that being made aware of a problem and a willingness to act on it do not necessarily guarantee success. In another example a staff member had struggled with a poor lecturing voice to improve his lecturing but this problem had never been satisfactorily resolved despite his willingness to tackle it.

Olde World University like many HEIs, has begun to tackle the need for staff development in teaching practices by requiring all new members of staff to attend a number of seminars run by the teaching and learning service. These seminars cover topics related to teaching practice. Anecdotal feedback from students and staff suggest that recent staff are more open to new ideas. However this is still likely to leave a large number of existing teaching staff out of this development.

Problems

The majority of HEIs income is the result of student numbers – in Brave New World College, 95% of the budget is generated through students. As a result good teaching methods and practice, as several staff members pointed out, has to be on the agenda for the appointment of new staff. Yet it was felt that the recent focus on research through the RAE exercise had reduced the profile and importance of teaching. The end result was felt to be that existing staff members with a good teaching record may be more likely to carry the teaching burden of staff appointed predominately as a result of their research rather than their teaching profile. Nevertheless in one instance a head of department had invited a Students' Association representative to sit on a staff appointment panel to represent the interests of students.

What if students consistently rate someone as poor in teaching? In one department in Brave New World College minutes of student/staff consultative meetings and student assessment exercises are put on the notice board. This may satisfy the demands of public dissemination and accountability but the individual tutor is quite vulnerable. Heads of programmes may have a clear understanding of the difficulties but be powerless to take radical action; the senior management team may/may not back up the head of programme or department; they perhaps see relatively little flexibility in dealing with the problem. So, for example, a bad teacher cannot always be asked to leave. One option (that has been taken) is to promote the individual out of teaching. The message is then that poor teaching helps your promotion prospects and that good teaching should be a reward in itself. Another option is to help staff to become better teachers. To this end many HEIs including one of the pilot institutions has a very substantial teaching and learning service which offers short courses, seminars and other support services.

However staff development courses set up as a response to student feedback have also been called into question by one or two staff. They raised the question of how to measure the effectiveness of such methods on staff members' teaching practice. That is if an institution was going to invest in such a programme how would it know if such a programme was effective. Both these staff suggested that developing a critical action research approach to staff development and improving teaching practice would be the most effective way to tackle this issue. Staff had to develop effective ways for collecting and recording student feedback and information in general and developing strategies for acting upon such. There was some suggestion here that staff were less well equipped to collect and deal with qualitative responses and evidence than simple quantitative measures of effectiveness and teaching assessment.

In one example a student adviser who regularly worked with individual students said that it was quite possible to see the result of her work since she would keep tabs on the student performance on assessments and examinations. However her work with staff groups was much more difficult to evaluate and she was reduced to collecting anecdotal evidence from involved staff about how useful they found sessions.

Evidence that student feedback is worthwhile

The research highlights that within the pilot institutions student feedback is sought at different levels and in different ways. These include across campus surveys of child care facilities and library services to specific feedback on individual modules. While questionnaires appear to be the most readily used vehicle for collecting feedback the institutions also commonly utilise staff/student committees and, less commonly, focus groups. However, they are less successful in communicating to students the results of such feedback and

the potential action taken from such feedback. Moreover, when asked to demonstrate that the information collected and/or the action taken as a result leads to improved student learning, the general picture was one of difficulty.

From an Email survey in Brave New World College several responses were returned detailing changes that have taken place in courses as a direct result of student feedback. Additionally the survey asked staff to detail evidence that such changes have resulted in improvements to students' learning and attainment. Responses are listed below:

> Example 1: Second year students found the speed of delivery of lectures from one lecturer to be too fast. This was fed back to the lecturer concerned, who then modified his delivery. The students have reported that they have been able to understand the lectures better this year.
>
> Example 2: In one module, SP2 students reported that they were unable to take adequate notes and at the same time listen to what the lecturer was saying. The lecturer has since provided handouts which gives OHP information. Students no longer report feeling so much time pressure during lectures.
>
> Example 3: Feedback suggested that the practical element of the module should begin earlier, therefore students are now engaged in group work from Week 2 instead of Week 3 which allows them to have hands-on with the AV equipment in order to allow them to gain confidence with this fairly sophisticated technology. The rationale is that, once basic understanding and skill has been gained, groups can then manipulate the technology to fulfil the promotional intent of their project. The "Practice Project" element has more time devoted to it also.
>
> An improvement has been noted in the students' ability to understand and use the technology employed (although difficult to measure) since the amount of time for involved instructional exposure to the technology has been increased. The "Practice Project" (Week 3–6) is allowed more time and it is here that the student groups appear to understand more and begin to articulate meaning with the technology.
>
> Example 4: Placements – change from half day a week to one day a week for study – starts this year, so not yet evaluated.
>
> Example 5: Inf lit – more classroom sessions (used to all be ITC) – vast improvement in written work. For the first time no one failed the first part of the assignment this year.

With the exception of Example 3, most of the feedback collected appears to operate on the implicit rationale that satisfied and happy students make good students and good students get better results. While this is not an unreasonable assumption, little feedback addresses 'core' areas and issues of how students learn, what they are actually learning, and how to improve that learning.

Operating on the 'happy student' model means that in dealing with, for example, student boredom you bring in guest speakers and again ask the

students if they enjoyed the experience. Yet while the students may well be more satisfied with the guest speaker than the original lecturer, can we assume that they have learned more about a particular subject just because they are more content with the speaker? While we can argue that such moves may promote the learning environment in that an awake student will take in more than a sleeping student, they do not deal with learning in itself.

If many staff are operating on the 'happy student' model it is no surprise that they had difficulty in demonstrating how they 'closed the loop'. While a variety of feedback procedures could generally demonstrate student satisfaction, it was substantially less likely that they could demonstrate how feedback and subsequent action had resulted in improvements in students' performance.

Interviewed staff in the pilot institutions have debated the measurability of improvements in student and staff performance. Some have suggested that improvements in student satisfaction and exam results could be used to indicate the impact of student feedback and improvements in teaching and learning resulting. It was also pointed out that this would be difficult to measure in reality since there are so many variables involved. It may be possible to plot trends and, with a common sense approach to analysis, to make fairly confident statements about improvements and their causes. In the case of one department in Brave New College, staff were in a position through keeping records of course developments, student feedback and exam results to predict expected outcomes year on year. Thus when one particular cohort did less well than the previous years it was fairly easy to identify reasons for the lowered performance. However the same staff informant pointed out that, had she been sharing the teaching with other members of staff or had other members of staff been responsible for teaching in different years, such an exercise would have been more difficult. This comment was echoed by another head of department who pointed out that, where several staff were involved in teaching modules or courses, it would be very difficult to measure the impact of each staff member in such a way as to note the differing contributions made by each to teaching and learning.

Tackling the issues and closing the loop

In one situation the researchers encountered a small project which provided the most complete example of 'closing the loop'. In one faculty in Olde World University a computer based assessment scheme had been developed, as a result of student feedback on the lack of assessment in first year, which would allow students to gauge how they were performing.

With the expansion in student numbers,

> *inevitably the course has a degree of impersonality and it is difficult to provide much in the way of pedagogical support for students. An evaluation study which was carried out in the first year of the course did not suggest that students felt a lack of contact*

with staff; it did however identify a degree of concern about knowing how they were achieving learning objectives as the course progressed. As a result we set up the computer based self assessment exercise with feedback and comments going to lecturers.

In this situation, tests of about 20 items are loaded on to a main server and students can access these over 48 PCs. The system is available on 5 days and 2 evenings per week. Students are given feedback on their performance on completion of the test. As part of the test students were also asked for feedback on the procedure and small focus group discussions were also held with students who had taken part in the programme. The student reaction was positive and resulted in a further 8 tests being offered.

In some cases students attempted the same set of materials 5 or 6 times in the period leading up to the exam. Feedback from students was again positive with the only regular complaint being the need for materials to cover other units in the module. One point made by students in conversation was that the anonymity was welcome.

Further questionnaire evaluation was positive with students often noting that:

It was good for revision, or that

it helped to determine what they didn't understand.

The evaluation concluded that:

> the reflective nature of the student feedback, seem to have realised the potential of the system for meaningful self assessment and useful pedagogical support.
>
> Another important outcome is the students' feeling that doing the self-assessment exercises aids learning at least in the service of the exam.

In relation to the contribution to students' learning and understanding, the project co-ordinator aimed to correlate the use of the self assessment exams with exam results pointing out that:

Our initiative in self-testing can only be truly valuable if the outcome contributes to the development of deep learning.

Our present concern is to develop the provision of materials, using all available means of delivery, to ensure that we can provide a range of stimulating and searching materials that will make a clear positive contribution to student learning and understanding.

Staff reaction to the project was generally positive and became more so in light of the positive student feedback. However, it was noted that one member of the department was less supportive of the scheme, saying that he did not believe in this type of objective testing.

The ethos of the department was such that staff who consistently had classes which turned in poorer results would be offered support in teaching practice. While it was recognised that this could not solve all the problems encountered it was deemed sufficient justification for attempting to tackle such issues.

Staff in the department were aware that it was difficult to envisage an objective measure of improvements in teaching and learning, recognising the difficulties of having no experimental 'controls'. However, over time results would provide their own internal checks of consistency and changes in student performance which could, with a degree of certainty, be linked to particular changes in teaching methods.

Summary

Both pilot institutions and faculties/departments within the institution collected student feedback in a number of ways including questionnaire, through staff/student committees and during informal exchanges. While students welcomed such moves they were often less satisfied with the commitment shown to the collection of feedback. Indeed in some instances encountered course evaluations highlighted very low or nil questionnaire returns from students. In the main, the majority of questionnaires adopted a student satisfaction approach to feedback. Only a very few of the scrutinised questionnaires asked students about crucial learning strategies or areas concerned with deeper learning. In relation to taking action based on student information and feedback, departments did not always effectively communicate the outcomes of such feedback to students. In relation to demonstrating how student feedback contributed to improving student learning outcomes very few examples were uncovered. Indeed many staff doubted whether such an exercise was possible in view of the large number of variables impinging on student learning. In discussion, staff generally adopted the assertion that satisfied students were more likely to do well; however, they were less able to demonstrate this in relation to improvements in students' actual performances. In a few instances, staff suggested that collecting data and maintaining full records over the longer term would allow for the identification of key variables in relation to improvements in student learning but very few staff claimed to be in such a position.

Appendix 2

Teaching methods identified by Bourner and Flowers (1997)

action learning	case studies
coaching	creative visualisation
demonstrations	developing skills in using library and other learning resources
discussion and debate	dissertations
directed private study	essay writing
exam papers	experiential learning
feedback	feedback on written work
group working	guest lectures
independent study	lateral thinking
learning contracts	learning logs
lectures	literature reviewing
mentors	mind-mapping
open learning materials	peer assessment
portfolio development	practicals
presentations	problem solving
profiling	projects
reading lists,	reflective documents
reflective logs and diaires	research projects
role play	self assessment
seminars and tutorials	simulations
structured experiences in groups	supervision
textbooks	use of the Internet
work experience	workshops
workshops on techniques of creative problem solving	

The Scottish Council for Research in Education

'Research in the service of education' is the motto of the Scottish Council for Research in Education. For over 60 years it has put this into action through carrying out research studies in schools and other institutions across the educational system at all levels from pre-school to adult and vocational education. It also provides a range of associated research, information and communication services. SCRE aims to make documents arising from its own research available to those who are interested. Reports in the Project Report series are not specially prepared for publication. Enquiries about SCRE publications are welcome and should be directed to Information Services.

RESEARCH
INFORMATION
EVALUATION
CONSULTANCY
for EDUCATION

48

SCRE